DOCUMENT RESUME

ED 333 689 EC 300 445

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TITLE Application Tips.
INSTITUTION Wisconsin Univ., Madison. Trace Center.
SPONS AGENCY National Inst. on Disability and Rehabilitation Research (ED/OSERS), Washington, DC.
PUB DATE 89
CONTRACT G008300045; H133E80021
NOTE 41p.; A product of the Trace Research and Development Center on Communication, Control, and Computer Access for Handicapped Individuals.
AVAILABLE FROM University of Wisconsin, TRACE Research & Development Center, Waisman Center, 1500 Highland Ave., Madison, WI 53705-2280 ($3.80).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Communication Aids (for Disabled); *Communication Disorders; Communication Skills; *Design Requirements; Microcomputers; Nonverbal Communication; *Skill Development; Symbolism; *Training Methods; Vocabulary
IDENTIFIERS *Augmentative Communication Systems

ABSTRACT

This guide offers a practical approach to construction of and interaction training of communication aids for use by individuals with disabilities. The guide covers: communication board design and construction; use of the computer as a communication tool; orthographically based communication systems; guidelines for selecting vocabulary for the communication aid through an environmental inventory; making regular revisions to the client's needed vocabulary; integrating augmentative communication systems into activities; enabling the client to be involved in choice making; and interaction training. A final section discusses the use of object symbols as a basic communication strategy. The section focuses on symbols, objects versus object symbols, individuals who might benefit from using object symbols, vocabulary selection, object selection, getting the object container and the "done" container ready, locating the object symbols, introducing the object symbols to the disabled individual, prompting strategies, introducing graphic representations, and helping the individual to generalize the communication skills to interactions with other caregivers. (JDD)

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ED333689

Trace Reprint Series

Application Tips

Gamradt, J.E. & Gunderson, T.

1989

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COMMUNICATION BOARD CONSTRUCTION & DESIGN: STEP-BY-STEP

1. Determine the vocabulary which is to go on the main communication board:
    - Who will they use it with?
    - Where will they use it?
    - Collect vocabulary lists.
    - Observe in their common environments.
    - Keep a diary of what client says informally (e.g. idiosyncratic gestures).
    - Include only what the client has a need to communicate or is motivated to communicate.
    - Look for specific opportunities for the client to communicate/request within their routine (e.g. requesting items at snack time).
    - In general, include items that apply across environments (e.g. Bathroom) or are specific to opportunities for communication that occur regularly within routine (e.g. requesting snack items, choosing between activities that are frequently presented as options within the classroom or vocational setting, etc.).
2. Organize the determined vocabulary into categories that are meaningful for the client or that facilitate the client's message construction. The way in which the client uses the communication system will determine the best way to arrange the vocabulary items.
    - Fitzgerald Key System: people, actions, emotions, food clothing, places, events.
    - By topic: bowling, art activities, sports, politics.
3. Do a rough layout of vocabulary items on the space that will be available on the communication board (generally placed on the client's laptray).
    - Symbol system, symbol size, and symbol spacing should be determined during the initial evaluation. Recommendations may change as the client is observed using the communication system over time.
4. Topic- or event-specific items are often included in an area of the board that can be changed by the client or in some cases by those around them.

The most effective way to introduce new symbols to your client is within context. This enables you to pair the symbol meaningfully with an action or object. For this reason, it is necessary to have construction materials close at hand in many communicative contexts.

- You can establish small work stations within the primary communicative environments (e.g. in the primary classroom).
- You can provide a means of transporting the necessary materials around to other environments (e.g. field trips). This may simply be a bag that you routinely use to transport the tool kit and symbols.

5. It is important to try to involve the child's significant others in providing adequate vocabulary.
   - This will involve providing them with materials (e.g. a set of symbols in a binder) or letting them know where they might easily obtain materials (e.g. an Exacto knife, plastic adhesive, etc.). They are less likely to actively participate if things are not conveniently set up for them.
   - Involving individuals such as parents in providing your client with needed vocabulary means that you must also spend time educating them on how to select useful vocabulary.
6. It is frequently necessary to provide protection for your symbol displays.
   - Lamination or contact paper is very useful for more permanent vocabulary displays or displays that have been designed far enough in advance to allow this.
   - For more temporary displays the use of plastic pockets, such as those designed for photographs are useful. These pockets are available in many differents sizes.
7. Many times you may not have the symbol(s) you need available when you need it. You may have to resort to drawing in such instances.

8. It is frequently useful to incorporate a calendar system into the communication system. This involves recording events in pictures into a calendar that is accessible to the client. The client can then use this as a basis for communicating events that have happened or are going to happen.

9. It is frequently useful to assemble most of your pictures prior to actually trying to put them onto the gridded laptray. It is advisable to keep them sorted into the pre-determined categories and topics. Once you start to actually arrange them onto the laptray, it is also helpful to attach them temporarily with a substance such as the plastic adhesive used to hang posters. This "putty-like" material allows you to move symbols if you do not like where you first put it. Symbols can later be more permanently attached (e.g. through lamination) once the final arrangement has been determined.

10. Once you have a rough draft of how you want the board arranged, you can then start to assemble the actual pictures onto the gridded area of the final draft of the communication.

11. Keep in mind that a person's communication system usually requires frequent revisions. You often decide that some things should be changed after it is all completed. This is no unusual. Jot those ideas down for future revisions.

COMMUNICATION BOARD CONSTRUCTION & DESIGN: HINTS AND SUGGESTIONS

Frequently it is desirable to involve a client's significant others in actually constructing their communication board. This is especially important as practitioners often do not have the manpower necessary to keep up with the construction and revisions of communication boards that are necessary to meet the communication needs of their many clients. It is also imperative that a client's significant others be involved as much as possible in designing and maintaining the client's communication system as they know the client the best and are also available on a consistent basis. This enables them to make the ongoing modifications and additions to communication boards that are necessary to make it a functional, evolving, and flexible system. With this is mind, an attempt has been made here to record some of the basics of board construction in a step by step manner to provide guidelines for those unfamiliar with board construction.

These guidelines should never replace a full evaluation of the client's communication abilities by a qualified professional. Such an evaluation is necessary prior to even beginning this construction process. It is hoped that once your client's specific communication needs have been identified through evaluation, these guidelines will be helpful in allowing you to carry out the subsequent recommendations concerning board construction.

1. Determine the vocabulary that should go on the client's communication board. This will involve collecting vocabulary lists from people in all of the client's environments (e.g. work, school, social activities). It is important to consider who the client will be using the board with and where they will be using it. Observation of the client in these various environments would provide insight into the vocabulary that is needed. Collecting lists of potential vocabulary from familiar interactants would also be helpful. In addition, keeping a diary over the course of several days of what the client says informally (e.g. with idiosyncratic gestures, etc.) will provide information on what the client is motivated to talk about.

   All this preparation may seem like it should be obvious, but it frequently is not. For example, it is frequently tempting to include such things as "pail," "scrub brush," and "cleaning solution" on someone's board if they work with those items at their work setting. However, frequently the client may not ever be interested in saying these things with their board. If the client must communicate these items at times in routine (e.g. when they run out of cleaning solution they could be expected to ask for more and would not do this effectively without a symbol on their board) then they may find it useful. It is important to carefully evaluate each prospective item for the client's board with this in mind. This will avoid unnecessarily cluttering up the board with items that you want them to say but they are uninterested in saying. When vocabulary lists are assembled for the client's board, it is advisable to review this list with someone who has had training and experience with putting communication boards together for people.

2. The finalized vocabulary lists should be organized into categories that are meaningful for the client or that facilitate the client's message construction. Common categories include "people," "actions," "emotions," "food," "clothing," "places" and "events." This is roughly the arrangement suggested in the Fitzgerald Key. It may also be useful to arrange vocabulary specific to certain events together. For example, you might want to include several vocabulary items relating to going bowling on the communication board if that is something the client is really interested in talking about. In this way, the individual can relate more specific ideas concerning an event without having to jump all over his communication board to do so.

3. Once the vocabulary lists have been compiled and organized, it is possible to get a rough idea of the number of vocabulary items that are to be included on the communication board. It is then desirable to do a rough lay out of vocabulary items in the space that is available for the communication board. Of course, the area of the laptray that is useable for the client as well as the size of the symbol items will have been determined during the evaluation. It is easiest to grid the total area in the appropriate sized squares and then begin to fill in the squares with the vocabulary items. In some instances, you may want to write out longer messages next to or above certain symbols and so it may take up more than one spot on the gridded area. For example, next to a picture of two people shaking hands, you may want to write the message "It's good to see you." It will be best to write in your vocabulary items in pencil so to allow for easy erasure.

4. The various vocabulary items that were previously arranged by categories or topics are arranged in these categories/topics on the gridded area of the laptray.

5. Topic or event specific items are often included in an area of the board that can be changed by the client or in some cases by those around him. Such vocabulary is frequently specific to a certain place or event and so its direct availability during the general course of the day is not as important as more general, commonly used vocabulary items. Such things as interchangeable cards that can be accessed by a power square on the board (e.g. the client points to a square to indicate that he wants that specific card put up on his communication board) or flip up flaps (like those found in a photo album) are ways to enlarge the number or symbols that a client has at this access. This is frequently necessary if there are more vocabulary items than there are spaces available on the surface of the communication board.

6. Color coding with colored paper or by drawing colored lines around groups of symbols is frequently useful for the client. Mayer-Johnson suggests one type of color coding in their picture symbol collection. Color coding may make it easier for your client to find specific vocabulary items. For example, it may be easier for a person to find the symbol for "father" if they know that all "people" symbols are found on yellow.

7. Frequently it is desirable to include a "current events section." This will enable the client to talk about things that are happening now in their life. This section must be frequently changed as current news quickly becomes old news.

COMMUNICATION BOOK CONSTRUCTION & DESIGN

1. Process of determining vocabulary needs is similar to that described for communication boards.

    - Be careful to include only items which are presently useful to the client. Avoid putting in items that the client is unmotivated or unable to use but that you would like them to use.

    - The symbols that apply more generally across environments are often put in one area of the communication book (e.g. the front part), with the topic- or event-specific "miniboards" being displayed separately. A book user often has the advantage of being able to more easily access the topic-specific vocabulary than does a board user.

    - Not all communication books (or boards) are designed for general conversation, as not all clients have the ability to converse for long or even short periods of time. For some clients books are designed for use during very specific times of the day (e.g. ordering meals at a restaurant, requesting what activity they want to do at playtime, etc.).

    - In order for the client to be able to communicate in many situations, they must have the needed vocabulary items at their disposal.

    - Be conscious of your client's ability to comprehend and report about events removed from the present time. For some individuals, vocabulary included on their communication system should primarily allow them to communicate about the "here and now" (e.g. making choices within an activity, commenting on action that is presently happening), as future and past events may be beyond their memory or understanding.

    - Take topics that your client is most interested in talking about (e.g. sports) and give them a variety of things to talk about concerning that topic. Try to incorporate new symbols regarding current events that pertain to their area of interest.

2. Organize the determined vocabulary into categories that are meaningful for the client, or that facilitate the client's message construction.

    - Fitzgerald Key System: people, actions, emotions, food clothing, places, events.

    - By topic: bowling, art activities, sports, politics.

- To avoid having to flip pages frequently in the construction of one message you can: include a number of "people," "action words," "commenting words," etc. along with a display of words specific to a given topic. You can also utilize a foldout display system.

- Put symbols that are frequently used together in the same area of the book.

3. You may also use color coding and tabs to facilitate locating items within the communication book.

4. Make it a regular happening to supply your client with new vocabulary that pertains to important events in their life.

    - It is useful to have all your tools handy to make easy additions when necessary.

    - It is useful to use a temporary attachment for symbols that will be in the book only temporarily.

5. Calendar systems are often usefully incorporated into a communication book system.

    - Makes routine recording of important events quick and easy for those working with the client.

    - You can record special events into the calendar, utilizing symbols as well as words, to make it possible for your client to actually communicate ideas to others utilizing the calendar.

    - Individuals regularly involved with updating the client's communication book can use the calendar as a reference for what should be added to the book.

    - Frequently, small calendars can be taped into the back of a communication book. If a calendar is not appropriate for a given client, a small notebook could also be used to record important events concerning that client.

6. There are many different formats that can be used to design a portable vocabulary display for ambulatory individuals:

    - Using book tape and plastic pockets to create a customized book

    - Using small credit card holders

    - Using small specially designed communication books

    - Using larger foldout displays which can be sewn or obtained commercially

- These are items which do not need to be available during the general course of the day, but rather during specific identifiable times.
- You may use interchangeable areas of the board to accommodate these specific vocabulary displays: plastic pockets, flip-up cards (similar to those in photo albums), etc.
- The entire board or a section of the board may be interchangeable.
- Use of "power squares" so the client can request that a vocabulary display be changed or that they be presented with a miniboard of vocabulary pertinent to a given topic or activity.

5. Color coding may make it easier for your client to find specific vocabulary items on their display
6. It is important to incorporate a system which supplies your client with a way in which to communicate current event items important to them.
   - Miniboards of current event items
   - Include in routine times to regularly change the current events display.
7. It is often useful to incorporate a calendar system into the communication system.
   - This allows for regular recording of significant events in your client's life. It also gives important information regarding what you might want to add to your client's communication system.

ORTHOGRAPHICALLY-BASED COMMUNICATION SYSTEMS

1. Use of the alphabet: the ability to spell gives an individual the power to generate vocabulary as they need it.

2. Use of high frequency words: accessibility to high frequency words reduces the necessity to spell needed vocabulary, thus speeding up the rate in which the individual is able to communicate.

3. Predicting frequently needed vocabulary: speeds up rate of communication as the individual does not have to spell needed vocabulary.

4. Use of subject specific interchangeable displays: this involves designing small displays of vocabulary that is specific to a particular situation (e.g. ordering food in a restaurant). These displays are particularly useful in situations where communication must be as fast as possible to be functional.

5. To facilitate integration of an orthographically based communication system user into the classroom the following points are useful:

    - Planning ahead to provide vocabulary needed to participate in discussions of specific topics.
    - Building a system of support for the ever changing vocabulary needs of the system user.
    - Encouraging advanced preparation of discussion participation.
    - Providing the individual with a portable and stationary writing system.

MAKING IT FEASIBLE TO REGULARLY PROVIDE YOUR CLIENT WITH NEEDED VOCABULARY

✔ IT MUST BE CONVENIENT TO ADD VOCABULARY WHEN YOU NEED IT OR IT WILL NOT GET DONE!

1. It is desirable to have a copy of the complete set of symbols that your client uses close at hand.

    - Have multiple copies of the symbols three hole punched and put into a three ringed binder.

    - A set of larger symbols can be cut apart and filed in convenient categories. Symbols can then be pulled out to provide vocabulary for specific activities. These symbols are re-filed and can be used again.

    - Miniboards for a specific activity can be assembled using the cut apart symbols. This miniboard can be photocopied for the client and kept on file for future use. A file of miniboards can be established to be used as a handy resource for future activities.

    - Some symbol systems may be available in easy-to-use stamp books.

2. Have needed grids made up and on file for easy access.

3. It is useful to assemble a "tool kit" that is always available for situations in which you must potentially provide your clients with additional vocabulary items.

    - Assemble necessary items in a small portable container, such as a pencil box.

    - Keep an assortment of pens handy, such as black ball point pens, colored felt tip markers, etc.

    - Keep an Exacto knife in the kit to enable you to quickly and easily cut out the symbols you may need. Use of an Exacto knife also prevents the destruction of the pages of symbols you have assembled into a binder.

    - The substance that is used to tack posters up on walls (may be referred to as "Hold It Plastic Adhesive") is useful to keep in your tool kit. This substance enables you to routinely add, remove, or move symbols. This is particularly practical for communication books.

    - It is also useful to keep "white out" in the tool kit to enable you to quickly modify symbols if necessary.

BASICS OF INTEGRATING AUGMENTATIVE SYSTEMS INTO ACTIVITIES

1. Anticipate vocabulary needs of an activity and provide the client with the necessary vocabulary.
    - What vocabulary do speaking individuals need to participate?
    - Design miniboards with the necessary vocabulary.
    - Look up signs to introduce within the activity.
    - Build support into the system for the regular need to change vocabulary (assign the responsibility).
2. Provide the augmentative system user with an interpreter. These individuals need a voice.
3. Provide the augmentative system user with a clear and consistent means of initiating communication: a call alarm, vocalization, eye contact, physical movement.
4. Give the augmentative system user adequate time to respond. This may mean planning extra time for group interactions and keeping the size of the groups as small as possible.
5. Do not get hung up on only using the specific augmentative communication aid within activities. Consider all of the possible modes of communication that a given individual has access to. Many times you must customize the mode of communication to meet the demands of a particular environment.

INTERACTION TRAINING AND CHOICE MAKING

1. This type of programming is recommended for clients who need to develop skills which will be necessary in basic interactions with others or in using a more formal communication system.

2. This programming is critical for individuals who:

   a. Are not highly motivated to communicate

   b. Seldom initiate communication or interaction with others.

   c. Make few communicative attempts.

   d. Do not have prerequisite skills needed to use a formal communication system: attending, understanding of symbols, eye contact, consistent method of selecting symbols, etc.

3. This training may be used to develop less formal means of communication, such as pointing, reaching, choosing between actual objects, looking, etc.

4. Other areas of skill development may include turn taking, eye contact, visual tracking, an understanding of cause-effect, etc.

5. One goal in this type of training may be to establish a common focus of attention between the client and yourself. This creates the potential for interaction.

6. Appropriate interactive activities frequently involve the client physically in some way. Some examples may include:

   - dancing
   - polishing finger nails
   - eating a snack or preparing food
   - passing a ball back and forth
   - playing basketball
   - using clay
   - walking to the store for pop

7. It is important to determine what activities the client may be motivated to participate in. This may involve observing the client or talking with others who know them well.

- Look at what the client may be communicating informally for clues about what they are interested in.

- For some clients a goal may be to facilitate the development of interests.

8. Symbols (e.g. signs, pictures, objects, etc.) may be introduced into the context of the activity. Multiple opportunities to utilize the symbols within the activity are useful in training clients to use the symbols meaningfully.

    - Many times basic choice making is emphasized, using a more concrete symbol system such as actual objects or actual photographs.

    - Basic signs may be introduced to some clients as this may be less disruptive to the interaction than introducing a miniboard with other symbols.

    - Miniboards enabling the client to meaningfully request or comment during the course of the interaction may also be useful for some clients.

9. The general sequence of programming that may be used is as follows:

    - Establish a routine of participating in favored activities with a client. The client comes to expect that these activities happen when you are with them.

    - Provide the client with choices by presenting them with the actual objects, photographs, etc.

    - Some type of symbol can be introduced to represent each activity that you participate in (a photograph, a sign, an actual object). This symbol should be presented to the client just prior to beginning the actual activity.

    - At first the symbols are merely introduced to the client. Over time the client is given a consistent cue or prompt to present this symbol in order to initiate the activity. This is in effect teaching the client how to initiate activities that they have come to like and expect to happen.

    - Frequently hand over hand assistance is necessary in teaching the client how to indicate their symbol choice.

10. Interactive activities provide something for the client to communicate about that is motivating and happening in the here and now. Frequently talking about past and future events is too abstract for lower functioning individuals. Time is a very abstract concept.

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VOCABULARY SELECTION THRU ENVIRONMENTAL INVENTORY

(This technique is based on an article by Faith Carlson (1981)).

1. Jot down the different places the student is in within a given week. Select a facilitator for vocabulary selection for each environment and the additional activities most preferred by the student.

PLACE	FACILITATOR

2. The facilitator should then jot down activities that occur in the above places.

ACTIVITIES AT

The next 2 steps are crucial to successful vocabulary selection and will probably require the most time.

3. Inventory vocabulary within activities by observing the activity and listing all possible vocabulary. Following is an example of vocabulary inventory for a 4 year old during an art activity.

ACTIVITY: Art

PEOPLE INVOLVED	CHOICES	WHAT PEERS ARE COMMUNICATING
teacher	paints	I need help.
Speech Pathology	play doe	I want to glue.
Aide	markers	I'm drawing a _____.
peers:	crayons	I need to wash my hands.
Jamie	Koala Pad & Apple computer	My turn.
Patty	glue	What are you making?
Michael	cut	
Stephen		
child:		
I, me, Bobby		

ACTION WORDS	DESCRIPTIVE WORDS	OBJECTS	PHRASES
cut	yuok!	paper	my turn
paste	nice	paint	I want help.
open	pretty	various colors	
close	messy	glue	
put away	dirty	markers	
draw		scissors	
paint			

WHAT DOES THE STUDENT LIKE TO DO IN THIS ACTIVITY

glue, cut, open the glue bottle, pass out paper, paint, give picture to other teacher or child, and pour.

4. From the above list, determine words that: the student really wants to say (powerful words), words at the student's level and words within the experience. It is important to differentiate words that we as adults want the student to say and words that the student really finds important. For example, adults may want to provide the prepositions in, on, beside and under. However, the student may not care to talk about the fact that the play doe is in the container. On the other hand a student may desperately want a turn cutting with the scissors (even if they physically need total assistance) and so the word scissors may be a more likely candidate to add to the vocabulary array. Realize too, that it will be difficult to require the student to point to a symbol of something they can communicate clearly and directly. Therefore, select vocabulary that they need.

5. Once vocabulary is determined you can begin to organize it on the student's communication board, mini display, or electronic devise.

VOCABULARY SELECTION THRU ENVIRONMENTAL INVENTORY

ACTIVITY:

PEOPLE INVOLVED	OBJECTS	ACTION WORDS	DESCRIPTIVE WORDS

POSSIBLE CHOICES	WHAT OTHERS ARE SAYING	WHAT DOES STUDENT LIKE TO DO	PHRASES

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COMPUTER USE AND COMMUNICATION

Skill Building & Communication Goals: The Computer as a Tool

Attending: In order for interaction to occur between two people, they must both be attending to the same thing. The computer might capture the attention of some individuals. There is nothing magical about it: computer activities may simply supply the color, sound, or instant reaction that will capture some clients' attention.

Turn-Taking: Some computer activities may encourage turn-taking, which is a major part of interacting with others.

Motivation: Some individuals are not very motivated or interested in doing things with other people. Doing things with others is a very basic part of communication. If computer activity captures an individual's interest, it may encourage them to do things with others.

Increasing Available Age Appropriate Activities: Many cognitively impaired individuals are most interested in participating in activities that actively involve them in some way. Many such activities are designed for children. The computer may expand the repertoire of activities available for adults who are cognitively impaired.

Cause-Effect: Some computer activities help teach clients the idea of cause-effect (i.e., "when I press the switch, something is going to happen"). This is a basic concept underlying communication.

Incorporate Working on Higher Level Communication Skills: Goals for increasing an individual's ability to use sign language or picture communication symbols to make meaningful choices can also be incorporated into computer activities.

Stationary Communication System: A computer can be used to make talking communication boards. These may be used by a group of non-speaking individuals who must communicate during an activity.

Motor Skills: Computer activities may be used to increase a physically disabled individual's ability to point or use a single switch.

Single Switch Computer Activities:

Some computer programs are specially designed to be operated using a single switch. This enables a person with a physical disability which prevents them from using the computer keyboard to operate computer programs. It makes it physically easier to use the computer. Single switch programs also make it easier for cognitively impaired individuals to use the computer. Rather than having to use all of the keys on

the keyboard (which can be very complex!), they can concentrate on using just one switch to make the program do what they want it to do.

Computer Hardware:

- Apple IIe Computer
- Color Monitor
- Single Switch Interface Box
- Single Switches
- Echo Speech Synthesizer
- Adaptive Firmware Card
- Unicorn Keyboard
- Power Pad

Computer Software: Single Switch Programs & Talking Programs

- Motor Training Games
- Interaction Games
- Rockets to the Moon
- Dinosaurs
- Talking Word Board
- Touch & Speak

BASIC COMMUNICATION STRATEGIES:
The Use of Object Symbols

by Julie Gamradt, M.S., CCC-SP
(January, 1990)

Topics to Cover:

- Introduction to Symbols
- Objects vs. Object Symbols
- Who might benefit from using object symbols?
- Vocabulary Selection
- Selection of Objects
- Getting the object container ready
- Location of the object symbols
- Introducing object symbols
- The Done Container
- Prompting Strategies
- Introducing graphic representations
- Consistency in Expectations

SYMBOLS

What is a symbol?

A symbol is something that represents another thing. There are many different types of symbols. Many people are familiar with using letters and words as symbols. The word "cat"for example, represents a small, furry animal that has a tail and whiskers. The use of letters and words for symbols is often referred to as orthographics. Other types of symbols include Blissymbolics, sign language, line drawings, colored pictures, and photographs. Objects can also be used as symbols.

Why are symbols used in communicating?

Symbols can greatly increase the efficiency with which we are able to communicate ideas to others. Most people use words (spoken and written) to communicate every day. For a non-reading/non-spelling individual who is not able to use speech effectively as their primary means of communicating with others, other types of symbols are needed to assist them in communicating.

How do we select which symbols are best for nonspeaking individuals?

The primary type of symbol a nonspeaking individual will use to help them communicate will depend on their abilities as well as who they will use them with. Impairments in vision, hearing, or movement will have an impact on symbol selection. A person's cognitive abilities will also impact on which symbols they will be able to understand and use effectively.

Visual graphic symbols can be thought of as being on a continuum in terms of difficulty. The more the symbol resembles its referent, the easier or more concrete it is considered to be. From hardest to easiest you might order them roughly as follows:

-Orthographics
-Blissymbolics
-line drawings
-colored pictures
-photographs

Object symbols would be considered more basic and easier to understand than this list of visual graphic symbols. Many times an individual may use several different types of symbols in their communication system.

OBJECTS VS. OBJECT SYMBOLS

How do *objects* differ from *object symbols*?

Sometimes individuals might use real *objects* to communicate specific ideas. For example, a nonspeaking individual might reach for or point to food or drink items in their immediate environment (e.g. a box of cereal, a can of pop, an ice cream sundae). This can be a very important part of some individuals' communication systems. An *object symbol* , on the other hand, is an item which is closely associated with its referent but is not the actual referent itself. For example, an empty can of soda could be used to request a soda. An individual could use an empty box of pudding to communicate that they would like some pudding.

Why is it useful to introduce object symbols?

For someone who frequently points to or reaches for actual objects in their environment, adding the use of object symbols can be very powerful. This can potentially give them the power to request things that are not actually present in their immediate environment. If an empty soda can is being kept in a consistent location in the house, some nonspeaking individuals could learn to use this object symbol to let you know that they would like some soda. They could use this symbol even though there is not any soda in the house. They could also use such a symbol to request an entire activity (e.g. walking to the neighborhood store to buy a soda). Some individuals will spontaneously devise their own object symbols. For example, they might carry their purse around the house to let you know they want to go to the store. In this instance, the purse is the object symbol which communicates wanting to go to the store.

WHO MIGHT BENEFIT BY USING OBJECT SYMBOLS?

- **Someone who does not attend well to communication boards or books.**

Communication boards or books can become a distraction to some nonspeaking individuals who are involved in interactions with others. In some cases, the communication board/book can become an activity in itself (e.g., like a photo album). Some individuals require intensive cuing to get them to look at a picture board/book. This also can be very disruptive to an interaction and is frequently not very effective.

- **Someone who has had difficulty using more complex representations.**

Some individuals cannot understand more complex symbols such as pictures or line drawings. Other individuals may have the potential to learn more difficult representations but need to have them introduced in a very concrete manner (e.g., pairing line drawings with object symbols).

- **Someone who does not respond well to the introduction of signs within their daily routines.**

Some individuals have the ability to make only a small number of signs that are clearly distinguishable from one another. This can greatly restrict the number of items they can successfully request using signs. It can also be more difficult to communicate in choice making situations using signs rather than objects (i.e., a person may not understand what the choices are). It is often a more concrete task to select from a menu of items (e.g., a number of object symbol choices laid out in front of them) than to express their choice in signs without benefit of a visual menu.

- **Someone who frequently uses real objects to communicate ideas.**

Some individuals will spotaneously use objects and object symbols to communicate with others. Opportunities for communicating could be expanded by introducing the use of more object symbols.

- **Someone with limited cognitive skills.**

Object symbols are a very basic form of symbolic communication.

- **Someone with poor attending skills.**

It may be easier to hold a person's attention using very concrete symbols.

VOCABULARY SELECTION

The most important step in the process of introducing the use of objects as symbols is determining the key ideas the nonspeaking individual wants to communicate. Before you do anything you must decide what objects, activities, or concepts you want to represent using object symbols. Anytime you are trying to teach a new skill it is wise to select material that the individual is highly motivated to learn. The following are some guidelines to follow to decide on what things to represent with object symbols.

- Select items the individual may be communicating regularly in informal ways. What things are they communicating by: Standing in certain places in the house or work setting? Reaching or pointing at things? Leading others to certain places or things? Getting upset or excited?, etc. List examples.

_____
_____
_____
_____
_____

- What activities do they routinely participate in and appear to enjoy? List them.

_____
_____
_____
_____
_____

- Does the individual use consistent ways to communicate certain ideas (e.g., their own special signs, vocalizations, or gestures)? List them.

_____
_____
_____
_____
_____

• Does the individual use any formal ways to communicate ideas (e.g., sign language, pictures, spoken words or word approximations)? List them.

_____
_____
_____
_____
_____

• Does the individual make any choices between objects as a part of their routine?

_____
_____
_____
_____
_____

If it was difficult to think of examples for the items above, it may be necessary to complete other kinds of training before introducing object symbols. For example, it may be necessary for you to become a better observer of the nonspeaking individual's present attempts to communicate as well as what their preferences are. It might also be necessary to introduce more opportunities to communicate and motivating activities into the individual's life.

It will be helpful to narrow down your vocabulary list to no more then 5-10 items to start with. This will make it more manageable for both you and the nonspeaking person to make changes in communication patterns by introducing the use of object symbols. For this beginning list, select items that the individual is most interested in communicating. Highly motivating items that occur in routine on a frequent basis should get priority. List your selected items below.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SELECTION OF OBJECTS

Objects to represent the selected items should be highly associated with the referent. The following are some examples:

- Getting a hamburger in a restaurant--a styrofoam hamburger container
- Getting a can of soda--an empty soda can
- Making pudding--an empty pudding box
- Going out for an ice cream sundae--an empty sundae container
- Going to the movie--an empty popcorn container
- Going for a walk--a pair of sun glasses

In many instances the object symbol will not be used as a direct part of the activity it represents. There may be exceptions. For example, the sun glasses used to represent going for a walk might only be used by the individual when they go for walks around the neighborhood. In representing activities with which there are no or few tangible objects associated, you might have to create this association by introducing objects into the activity.

Idea, object, activity to represent	Object to be used

GETTING THE OBJECT CONTAINER READY

Once you have the objects assembled you are ready to put them into the object container. It is important to only put objects into the container that represent activities that are feasible in the specific time period that you will be using them in. In other words, do not put the "going out for sundaes" symbol in the container unless you are prepared to hop in the car and head for the Dairy Queen once this symbol is presented to you. Being able to follow through with the request is important in teaching the individual how to use the symbols and in motivating them to use the symbols when appropriate. If your container has compartments, you will want to put each symbol into it's own compartment.

THE DONE CONTAINER

Just as the individual must be aware of where to find object symbols that can be used to request things, it is also important that they know where the symbols go when the activity is finished. The individual should return the symbols to a specific "done" container or space once the activity is finished. Frequently you will want this container to be very near the object container that is used for choice making. This in a sense makes the specific area where all of the object symbols are kept an "object symbol board". For some individuals, having the "done" container in a known, accessible area will be important to enableing them to request items even when they are not possible at that given moment (be prepaired to say "no" if they make this kind of a choice). Walking the individual through the process of putting away an already used symbol is important when introducing the symbols. For some individuals, actually using the sign or gesture for "finished" will be useful as you put the symbol away. The symbols that you have left over once you have set up the object container as described above could also be stored in the "done" container.

WHERE SHOULD YOU KEEP THE OBJECT SYMBOLS?

Introducing object symbols to an individual will potentially increase their ability to initiate for things known to be important to them. The goal is generally to teach an individual to spontaneously request these highly motivating activities using the object symbols. To enable the individual to initiate use of the object symbols on their own, the symbols must be kept in a consistent place that is easily accessible to them. The user must know where the object symbols are kept and have the ability to retrieve a desired symbol to initiate a request. For some clients, you may be able to keep them in a box in a closet or cupboard. For other clients you will have to store them so that they are in visual range. This would be particularily important for someone who would not or could not open a cupboard door or drawer, etc. For an individual who cannot use their hands and who consequently must depend on looking at things they want in their environment, it will be particularily important that you keep the items in a location easily visible to them.

Choice of room: It will be useful to consider where this individual spends a great deal of their time at home or at work, particularily when they are most likely to request the targeted items. It will also be useful to consider where you are most accessible to respond to their requests using the symbols. Select the room where it makes most sense to keep the symbol container and briefly state your rationale.

bedroom kitchen livingroom diningroom other_____

Rationale:_____

Container for the object symbols: There are a number of possiblities for what you can actually keep the symbols inside of. Is it OK for them to be piled on top of each other or should they be spread out and perhaps separated into compartments? Select a container for the object symbols and briefly state your rationale.

box bag drawer container or drawer with separate compartments other_____

Rationale:_____

What location in the room is best for the object symbols? Consider where the symbols would be most accessible to the individual, physically, visually or cognitiviely. Select the specific location in the room for the symbols. Briefly state your rationale.

shelf closet floor table desk other_____

Rationale:_____

INTRODUCING OBJECT SYMBOLS

Repeatedly pairing the unfamiliar object symbol with the object or activity it represents will be important in teaching the individual what the symbol means. You must show the individual all of the necessary steps in using an object symbol to initiate a request. From the beginning, it is best to only put those object symbols into the container that are possible to use at any given moment. For example, do not put the symbol for going out for sundaes in the container unless that is a viable option. You will have to make certain that all activities represented in the container are possible each time the individual is brought to it or approaches it spontaneously. This makes it certain that you will be able to reinforce their communication attempts using the symbols.

1. Model how you want the individual to approach using the collection of object symbols. For example, if the individual is to walk over to a closet and open the closet door to start the process of using the symbols walk them through this. If they are to look up at a box on a shelf, sit down next to them, look up at the box and point before you actually take it down for them.

2. Select an object from the collection and announce that you will now be doing the activity it represents. Since they probably will not know all of the symbols from the start it would not make sense to offer them a choice of the objects initially. In some cases it may work OK to let them randomly pick something out of the container and then provide them with specific feedback about what their object choice means. For example, if they select an empty sundae container you could say "You picked the sundae. Let's go for a sundae".

3. Bring the symbol along to the activity and have it laying in a prominent place if possible during the activity. If possible and practical, have the individual carry the object symbol to the location of the activity.

4. Have the individual (if possible and practical) return the object symbol to the proper "done" location once the activity is completed. If you must put it away, make certain the individual has an opportunity to watch this process.

This process should be completed on a number of occasions for each symbol that you want the individual to become familiar with. They should have repeated opportunities to see where to get the symbols, how to get the symbols, what the symbols stand for, and how to put away the symbols. Over time you want to decrease actually taking the lead in this process. Pauses and hesitations within the routine of using the object symbols should begin to be built into the process. By pausing, you are giving the individual the opportunity to initiate the various steps in using the symbols to indicate desired activities.

PROMPTING STRATEGIES

1. Always pause and give adequate time for the individual to independently initiate each step of using the object symbol container.

2. Try to use very subtle cuing before resorting to more obvious and direct cues. Very specific, directives (e.g. verbal or physical directives) should only be used after waiting and giving them less obvious cues.

Examples:

a. You start to slowly walk toward the object symbol center giving the individual adequate opportunity to take the lead.

b. Position yourself in close proximity to the object symbol center and "swarm" around it if necessary.

c. Try making small gestures toward the object symbol center (e.g., reaching toward the handle of the cupboard) without actually following through with the motion.

d. Look into the object symbol container (e.g., box) without making any specific comment.

3. If the individual does not respond to the subtle cues, try more direct cues such as a light touch or nudge of their hand in the right direction.

4. If the individual does not respond to a light touch or nudge, you might have to use a more directive approach such as hand over hand assistance.

a. Try to fade the amount and intensity of physical assistance with the goal of gradually fading it as soon as possible over time.

b. For some individuals this more direct approach is necessary in the early stages but can be faded as the individual learns what is expected of them over time.

c. If you are physically guiding a person through a process, periodicaly let go and pause to allow the individual to initiate the next step of the movement. For example, if you are guiding their hand toward the basket of symbols, let go to see if they will continue the movement on their own.

d. You can use natural interactive cues such as "What would you like to do now?" This type of a cue would be preferable to "Now go to the closet and get something out of your box."

INTRODUCING GRAPHIC SYMBOL REPRESENTATIONS

The use of graphic representations such as photographs can be introduced within the context of using object symbols.

1. Assemble clear, uncluttered photographs to represent each of the activities or objects.

2. Attach these photographs to the respective object symbols. Velcro might be useful to attach them. The individual will then see the photograph paired with the object each time it is used. You can reinforce this pairing by pointing specifically to the picture and confirming their choice.

3. Once the individual clearly indicates an understanding of the object symbols they have been using, you can try leaving only the picture in the object box container.

4. Over time the pictures could be attached to a board or card which the client could then use to point to in making their choices.

5. The board could be gradually moved to a new location if this is desirable.

CONSISTENCY IN EXPECTATIONS

Consistency is critical to successfully teaching individuals that require a more concrete symbolic representation such as the use of object symbols. They must have numerous opportunities to learn the meaning and use of these symbols within meaningful situations. For those working with these individuals at home or in the vocational setting, it means working as a team to provide the individuals with these needed opportunities. If only one or two people in the individual's life are implementing the use of the object symbols it is very likely that the person will have a great deal of difficulty learning the power of using these symbols to communicate. Learning opportunities cannot be limited to an hour or two of therapy per week which the individual might have at their access. Consistency will make certain that the client realizes that the expectations for their communication are the same across the people they encounter on a daily basis. Most often learning a skill with training provided by one or two people does not result in these new skills generalizing to all people they encounter.

Object symbol handouts by:

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Partial funding for this work was provided under Grant #'s G008300045, H133E80021 and from the National Institute of Disability and Rehabilitation Research, United States Department of Education.